

CLAIMS

- (1) A disk valve comprising an inlet port, an outlet port, a first disk provided with a first through hole communicating with the inlet port and extending axially and a second through hole communicating with the outlet port and extending axially, and a second disk provided with a concave capable of communicating with the first through hole and the second through hole of the first disk on one end face and slidably and movably contacting one end face of the first disk at the one end face, wherein a closed space is formed radially outside the second disk, and the second disk slides relative to the first disk to adjust the degree of overlap between the concave of the second disk and the first through hole of the first disk, and wherein the slidably and movably contacting part between the first disk and the second disk is self-lubricated, further comprising a communication passage for always placing the first through hole into communication with the closed space radially outside the second disk, and wherein a portion of the one end face of the first disk adjacent to the part slidably and movably contacting the second disk opposes the closed space.
- (2) A disk valve of claim 1, wherein the communication passage is a groove formed on the one end face of the first disk.
- (3) A disk valve of claim 1, wherein the communication passage is a part of the first through hole formed in the first disk.
- (4) A disk valve of anyone of claims 1 to 3, further comprising an annular third disk slidably and movably contacting the other end face of the second disk at one end face, wherein the second disk contacts the third disk to always cover the central opening of the third disk and slides relative to the third disk, the slidably and movably contacting part between the second disk and the third disk is self-lubricated, and a part of the one end face of the

third disk adjacent to the part slidably and movably contacting the second disk opposes the closed space.

(5) A disk valve comprising an inlet port, an outlet port, a first disk provided with a first through hole communicating with the inlet port and extending axially and a second through hole communicating with the outlet port and extending axially, and a second disk provided with a concave capable of communicating with the first through hole and the second through hole of the first disk on one end face and slidably and movably contacting one end face of the first disk at the one end face, wherein a closed space is formed radially outside the second disk, and the second disk slides relative to the first disk to adjust the degree of overlap between the concave of the second disk and the first through hole of the first disk, further comprising an annular third disk slidably and movably contacting the other end face of the second disk at one end face, wherein the second disk contacts the third disk to always cover the central opening of the third disk and slides relative to the third disk, the slidably and movably contacting part between the first disk and the second disk and the slidably and movably contacting part between the second disk and third disk are self-lubricated, a portion of the one end face of the first disk adjacent to the part slidably and movably contacting the second disk and a portion of the one end face of the third disk adjacent to the part slidably and movably contacting the second disk oppose the closed space, and a communication passage is formed in the side wall of the concave of the second disk to place the concave into communication with the closed space.

(6) A disk valve of claim 4 or 5, further comprising a lever that passes through the central opening of the third disk to engage the second disk and a casing for accommodating the first disk, second disk and the third disk,

wherein a second closed space is formed in the casing adjacent to the closed space radially outside the second disk and separated from the closed space radially outside the second disk by the second disk and the third disk, and further comprising an oil supply passage for placing the second closed space into communication with the open space outside the casing.

(7) A disk valve of claim 6, wherein the oil supply passage is formed in a portion of the disk valve exposed to the space outside a faucet body with which the disk valve is assembled.

(8) A disk valve of anyone of claims 1 to 7, wherein the inlet port is provided with a hot water inlet port and a cool water inlet port which are independent of each other, the first through hole of the first disk is provided with a hole communicating with the hot water inlet port and a hole communicating with the cool water inlet port, the concave of the second disk is capable of communicating with the hole of the first disk communicating with the hot water inlet port and the hole of the first disk communicating with the cool water inlet port, the second disk slides relative to the first disk to adjust the degree of overlap between the concave of the second disk and the hole of the first disk communicating with the hot water inlet port and the degree of overlap between the concave of the second disk and the hole of the first disk communicating with the cool water inlet port, and the communication passage for placing the first through hole of the first disk into communication with the closed space radially outside the second disk places the hole of the first disk communicating with the hot water inlet port and/or the hole of the first disk communicating with the cool water inlet port into communication with the closed space radially outside the second disk.

(9) A water faucet comprising the disk vale of anyone of claims 1 to 8.